

## CLAIMS:

1. A method of controlling at least one readout parameter during a reading operation from a magneto-optical recording medium (10) comprising a storage layer and a readout layer, wherein an expanded domain leading to a pulse in a reading signal is generated in said readout layer by copying of a mark region from said storage layer to said readout layer upon heating by radiation power, said method comprising the steps of:
  - a) monitoring an average detected runlength of a read pulse pattern;
  - b) generating an error signal based on a comparison of the result of said monitoring step with said predetermined average runlength; and
  - c) controlling said at least one readout parameter on the basis of said error signal.
2. A method according to claim 1, wherein said at least one readout parameter comprises at least one of the following quantities: said radiation power and the strength of an external magnetic field applied during said reading operation.
3. A method according to claim 1 or 2, wherein said pulse pattern corresponds to the user data recorded on said recording medium (10).
4. A method according to claim 1, 2 or 3, wherein said comparison is performed on the basis of a look-up Table linking the value of said error signal to a corresponding value of said comparison result.
5. A method of recording data on a magneto-optical recording medium (10) comprising a storage layer and a readout layer, said method comprising the step of applying a code constraint to said recording data, said code constraint being selected so as to keep the accumulated deviation from a predetermined average runlength of at least one of the following quantities: mark runlengths and space runlengths in said storage layer within a predetermined range.

6. A method according to claim 5, wherein said code constraint is applied to said recording data such that only the accumulated deviation of runlengths of mark regions is kept within said predetermined range.

5 7. A method according to claim 5 or 6, wherein said applying step comprises a decision on the allowability of a new runlength in dependence on the history of emission of preceding runlengths, said history being characterized by a resulting state in a state-transition diagram for the code constraint that corresponds to the value of the accumulated deviation value realized thus far.

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8. An apparatus for controlling at least one readout parameter during a reading operation from a magneto-optical recording medium (10) comprising a storage layer and a readout layer, wherein an expanded domain leading to a pulse in a reading signal is generated in said readout layer by copying of a mark region from said storage layer to said readout layer upon heating by radiation power, said apparatus comprising:

- a) monitoring means (21) for monitoring an average detected runlength;
- b) generating means (22) for generating an error signal based on a comparison of the result of said monitoring step with said predetermined average runlength; and
- c) control means (25) for controlling said at least one readout parameter on the basis of said error signal.

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9. An apparatus according to claim 8, wherein said at least one readout parameter comprises at least one of the following quantities: said radiation power and the strength of an external magnetic field applied during said reading operation.

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10. An apparatus according to claim 8 or 9, further comprising storing means (23) for storing information that defines a relationship between a value of said error signal and a value of the result of said comparison.

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11. An apparatus for recording data on a magneto-optical recording medium (10) comprising a storage layer and a readout layer, said apparatus comprising code generating means (24) for applying a code constraint to said recording data, said code constraint being selected so as to keep the accumulated deviation from a predetermined average runlength of

at least one of the following quantities: mark runlengths and space runlengths in said storage layer within a predetermined range.

12. An apparatus according to claim 11, wherein said code generating means (24)  
5 comprises a finite state machine.

13. An apparatus according to any one of claims 8 to 12, wherein said apparatus is  
a disc player for MAMMOS discs.

10 14. A magneto-optical record carrier comprising a storage layer and a readout  
layer, wherein an expanded domain leading to a pulse in a reading signal is generated in said  
readout layer by copying of a mark region from said storage layer to said readout layer upon  
radiation heating with the help of an external magnetic field, and wherein a runlength  
constraint is applied to at least one of the following quantities: mark regions and space  
15 regions in said storage layer, said runlength constraint being selected to keep an accumulated  
runlength deviation from a predetermined average runlength within a predetermined range.

15. A record carrier according to claim 14, wherein said record carrier is a  
MAMMOS disc (10).